

REMARKS

In the present application, claims 1-51 were originally filed. By preliminary amendment, claims 1-38, 44-47, and 51 were canceled and claims 52-71 were added. In an Office Action mailed June 1, 2005, the Examiner allowed claims 57-67, 69, and 71; rejected claims 39-43 and 48-50; and objected to claims 52, 68, and 70. In the present amendment, claims 39 and 52 are amended and claims 68 and 70 are canceled. No new claims and no new matter have been added. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Claim Objections

Claim 68 is objected to as being a substantial duplicate of Claim 67. Claim 68 has been canceled in this Amendment.

Claim 70 is objected to as being a substantial duplicate of Claim 69. Claim 70 has been canceled in this Amendment.

Allowable Subject Matter

Applicants thank Examiner Herring for indicating that claims 57-67, 69, and 71 are allowable and that claim 52 would be allowable if rewritten in independent form, which would include all of the limitations of the base claim and any intervening claims. Per the Examiner's suggestion, Applicants have chosen to rewrite claim 52 in independent form. Accordingly, Applicants assert that claim 52 is now allowable.

35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) Rejections Based on Rennerfelt

The Examiner has rejected claims 39-41, 43, and 54 as being anticipated by U.S. Patent No. 4,364,763 to Rennerfelt, or in the alternative, as being rendered obvious by Rennerfelt. Claim 39 is the only independent claim in the aforementioned rejected claims.

Rennerfelt discloses forming at least one slab of a thermoplastic, normally solid material, a shell 6, under heat treatment against a matrix 1 (Abstract; column 2, lines 53-55; and Figures 1-3, 5-6, 8, and 10). Rennerfelt teaches, according to one particular process, that a glass slab is formed by putting it on a master matrix, then placing this combination into a furnace and

heating it to a temperature above the softening-point of the glass slab (column 5, lines 45-48). This heating transforms the glass slab into the shell 6 (Figure 5), which is subsequently *filled* with glass bubbles or with a composition of glass powder and expanding agent (column 5, lines 49-52). An additional glass slab 10 is placed onto the shell 6 (column 5, lines 52-53; Figure 6). This whole assembly is again heated to the softening temperature of the glass bubbles or to the temperature at which the expanding agent reacts (column 5, lines 53-56).

In another embodiment, Rennerfelt teaches that the additional glass slab 10 is supported on the formed shell 6 while the glass bubbles or composition of glass powder and expanding agent do not completely fill the space between the shell 6 and the additional glass slab 10 (column 6, lines 15-18, Figure 8). The assembly is heated to the softening temperature of the glass, then the atmospheric pressure in the furnace is lowered to allow the glass bubbles to expand and fill up the space between the shell 6 and the additional glass slab 10 completely (column 6, lines 19-24). This process results in the end product illustrated in Figure 9.

Rennerfelt discloses yet another embodiment in which a back 9, made of glass and coated with a thin layer of so-called sealing glass, is sintered to the trimmed rim of the shell 6 and to the porous structure filling the shell 6 (column 5, lines 19-31; and Figure 4). In each of the above-described embodiments, in which Rennerfelt teaches to include an additional glass slab, the additional glass slab is placed directly in contact with the glass shell 6 during at least one heating stage. Rennerfelt further teaches that this contact sinters the glass shell 6 to the additional glass slab either directly or via an intermediate such as the “so-called sealing glass” and/or the glass bubbles, the composition of glass powder, or some mixture thereof (column 5, lines 19-31, lines 57-60; and Figures 4, 6-7, 9, and 11). This sintering process captures the glass bubbles, the composition of glass powder, or some mixture thereof between the glass pieces and fuses the assembly together to form a self-supporting mirror blank (column 5, lines 61-65; and Figures 4, 6-7, 9, and 11).

Applicants have amended claim 39 to recite, *inter alia*, “supporting a sheet of glass on a structural member comprising a refractory material, the sheet of glass being spaced apart from the pattern of ceramic-based powder.” Support for this amendment can be found on page 6, lines 15-16 and on page 8, lines 2-4, which indicates that the support member and the boundary member are refractory members. Applicants have attached, for example, a raised

boundary member, as produced by Lydall, which indicates that the refractory member is capable of withstanding temperatures of up to 3000°F.

This above-feature of claim 39, among others, provides that the Applicants' sheet of glass is not and cannot be sintered to or otherwise coupled to the refractory member during the subsequent process of "heating the sheet of glass to a temperature in excess of a thermoplastic temperature." Further, Rennerfelt does not teach or suggest supporting a sheet of glass on a structural member comprising a refractory material nor does Rennerfelt suggest using a ceramic-based powder. In contrast, Rennerfelt teaches and suggests supporting the additional glass slab 9/10 on the glass shell 6 and/or possibly on the glass bubbles, the composition of glass powder, or some mixture thereof. The glass bubbles, the composition of glass powder, or some mixture thereof, are not comprised of a ceramic-based powder as indicated by the softening temperatures listed in the table of properties on page 9 of Rennerfelt.

Consequently, independent claim 39, as amended, is not anticipated nor rendered obvious by Rennerfelt. Claims 40-41, 43, and 54, which depend from an allowable base claim and include all of the base claim's features, are also not anticipated and not rendered obvious by Rennerfelt.

35 U.S.C. § 103(a) Rejection Based On Rennerfelt and Wadsworth

The Examiner has rejected claim 42 as being unpatentable over Rennerfelt in view of U.S. Patent No. 789,191 to Wadsworth. Claim 42 depends from and includes all of the features of the allowable base claim 39; therefore claim 42 is patentable over Rennerfelt in view of Wadsworth.

35 U.S.C. § 103(a) Rejection Based On Rennerfelt and Hrifko

The Examiner has rejected claims 48, 49, 50, and 53 as being unpatentable over Rennerfelt in view of U.S. Patent No. 5,454,193 to Hrifko. Claim 48, 49, 50, and 53 depend from and include all of the features of the allowable base claim 39; therefore these dependent claims are patentable over Rennerfelt in view of Hrifko.

35 U.S.C. § 103(a) Rejection Based On Rennerfelt Only

The Examiner has rejected claim 56 as being unpatentable over Rennerfelt. Claim 56 depends from and includes all of the features of the allowable base claim 39; therefore claim 56 is patentable over Rennerfelt.

Conclusion

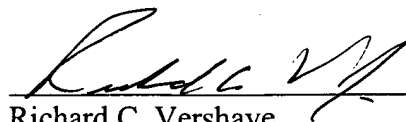
Overall, the cited references do not singly, or in any motivated combination, teach or suggest the claimed features recited in independent claim 39, which is the only independent claim at issue herein, and thus claim 39 is allowable. Because the remaining claims at issue each depend from allowable independent claim 39, and also because they include additional limitations, these dependent claims are likewise allowable. If the undersigned attorney has overlooked a relevant teaching in any of the references, the Examiner is requested to point out specifically where such teaching may be found.

Applicants respectfully request that the Examiner reconsider this application and allow all pending claims. Examiner Herring is encouraged to contact Mr. Vershave by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, she is encouraged to contact the undersigned by telephone to expediently correct such informalities.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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Enclosures:

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